

Component 9 - Networking and Health Information Exchange

Unit 6-2 EHR Functional Model Standards

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Objectives

- Understand the HL7 EHR Functional Model Standards
- Understand functional profiles

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EHR System (EHR-S)

- Includes the data storage and supporting applications that provide value
- Includes the functionalities that enable HIT for patient care
- Promotes and defines criteria for implementation of the EHR
- Makes the EHR the beginning, not the end of the journey

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Some History

- Secretary of HHS in 2003 requested existing IOM committee for data standards to define, quickly, a set of requirements for EHR functionalities
- Requested HL7 to follow-up to create a standard for EHR Functional Model (FM).
- HL7 EHR-S FM created as draft standard for trial use in 2004
- · Became ANSI standard in 2007

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EHR-FM

- Provides a reference list of functions that shall, should or may be present in an EHR-S.
- Enables common understanding of functions sought or available in any given setting.
- Includes functions considered essential in at least one care setting.

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Functional Granularity

- Describes the level of abstraction at which functionality is expressed
- Balance between usability and need for detail
- Provides a reference list of functions that shall, should or may be present in an EHR-S
- Enables common understanding of functions sought or available in any given setting
- Includes functions considered essential in at least one care setting

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Intent of Standard

- · Is technology neutral
- Is implementation neutral
- Does not endorse any specific technologies, although examples may mention a specific technology
- Is not an EHR specification nor a conformance specification
- · Is not a definition of an EHR

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Composition

- · Functional outline divided into three sections
 - Direct care
 - Supportive functionality
 Information infrastructure
- Does not include every conceivable functionality
- Includes over 240 individual functions contained in 13 subsections

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_	C1.0	Care Management	
Direct Care	C2.0	Clinical Decision Support	
ä	C3.0	Operations Management and Communication	
δ	S1.0	Clinical Support	
Supportive	\$2.0	Measurement, Analysis, Research, Reporting	
ě	S3.0	Administrative and Financial	
_	I 1.0	EHR Security	
Information Infrastructure	12.0	EHR Information and Records Management	
ଥ ଦି	1 3.0	Unique identity, registry, and directory services	
复意	1 4.0	Support for Health Informatics & Terminology Standards	
윤종	15.0	Interoperability	
ᇶᆿ	16.0	Manage business rules	
	I 7.0	Workflow	
		From HL7 International	
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Direct Care

- DC.1 Care management
- DC.2 Clinical decision support
- DC.3 Operations management and communication

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Direct Care Functions

- Enable hands-on delivery of healthcare and provide clinical decision support
 Example: Child presents with cold symptoms

- Enable doctor to record that event
 Alert provider that a vaccination is due and offer contraindication alerts regarding children who have symptoms of a cold
- Users

 - Authorized healthcare providers
 Subject of care will access certain functions to view and even make corrections to their EHR

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Supportive

- S.1 Clinical support
- S.2 Measurement, analysis, research, and reports
- S.3 Administrative and financial

Supportive Functions

- · Assist with the administrative and financial requirements
- Assist with the administrative and financial requirements
 Provide input to systems that perform medical research, promote public health, and improve the quality of care
 Example: Child is being scheduled for an appointment
 Electronically very insurance eligibility
 Electronically query local immunization registries to ensure child is currently registered.

 Determine child's immunization status
 Report and immunization at immunization registry
 Provide any encounter data required by financial and administrative systems

 Users

 Users

- Users
- Support staff
 Providers who perform certain administrative functions

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Information Infrastructure

- IN.1 Security
- IN.2 Health Record Information and Management
- IN.3 Registry and Directory Services
- IN.4 Standard Terminologies & Terminology Services
- IN.5 Standards-Based Interoperability
- IN.6 Business Rules Management
- IN.7 Workflow Management

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Information Infrastructure **Functions**

- Provide a framework for the proper operation of the direct care and supportive functions
- Offer EHR-S technical capabilities that are essential, yet transparent to the user
- Example: Secure transmission, backup and archive
 Provide a secure electronic environment for the immunization registration query
 Report the child's immunization event in a secure fashion

 - Transparently archive and backup the child's record and provide an audit trail of all accesses to the child's record
- - Functions are performed transparently by EHR-S applications on behalf of EHR-S end users

Use of EHR-S FM

- Describe end-user benefits such as patient safety, quality outcomes and cost efficiencies in terms of standard EHR-S functions
- Provide desired functionality for developers and vendors to include in their products
- Provide framework from which you can select functionalities to implement

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Details of Functional Model

- Function ID
- Function type
- Function name
- · Function statement
- Description
- · Conformance criteria

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Other Uses of EHR-S FM

- Most important use certification
- Help in selecting product and understanding what you want to implement
- Supports comparison of systems
- Aids in understanding commonality
- Permits identification of real and settings differences

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Functional Profiles

- Used to constrain the larger, superset of functions to an intended use
- Can be defined for a particular site or a particular clinical or disease focus
- May be registered with HL7 and shared with other organizations

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Functional Profiles

- Functions
 Direct care functions

 - Supportive functions
 Infrastructure functions
- · Care Settings

 - Care Settings

 Hospital inpatient acute

 Ambulatory small clinic practice

 Long term care nursing home

 Care in the community skilled home care
- Priorities
 - Essential now, essential future, optional, not applicable

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Emergency Care Functional Profile

- First registered clinical profile derived from EHR-FM standard
- Standard for the development, refinement, and evaluation of information systems employed in the Emergency Department
- Becomes a standard for possible use in certification process
- Includes addressing natural disasters

Registered Profiles

- · Behavioral Health
- Child Health
- Long Term Care
- Legal EHR
- Regulated Clinical Research (Clinical Trials)
- · Vital Statistics reporting

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Summary

- In this subunit, we have learned:
 - About a standard that defines the superset of functional requirements for an EHR-S.
 - How this superset can be tailored to fit any site or circumstance, including your local setting.
 - Just reading this set of functions is very educational in what can be accomplished in the use of HIT.

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